

**HIGH-QUALITY GRADIENT-CORRECTED
LINEAR INTERPOLATION FOR
DEMOSAICING OF COLOR IMAGES**

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ABSTRACT OF THE DISCLOSURE

A gradient-corrected linear interpolation method and system for the demosaicing of color images. The method and system compute an interpolation using some a current technique (preferably a bilinear interpolation technique to reduce computational complexity), compute a correction term (such as a gradient of a desired color at a given pixel), and linearly combine the interpolation and the correction term to produce a corrected, high-quality interpolation of a missing color value at a pixel. The correction term may be a gradient correction term computed from the current color of the current pixel. This gradient is directly used to affect and correct the estimated color value produced by the prior art interpolation technique. The gradient-corrected linear interpolation method and system may also apply a gradient-correction gain to the gradient correction term. This gradient-correction gain affects the amount of gradient correction that is applied to the interpolation.